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NO. 61.

BULLETIN OF FOREIGN PLANT INTRODUCTIONS.

April 1 to 30, 1911.

NEW PLANT IMMIGRANTS.

(NOTE: Applications for material listed in this bulletin may be made at any time to this Office. As they are received they are filed and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it, as well as to others selected because of their special fitness to experiment with the particular plants imported.)

ANDROPOGON SCHOENANTHUS. (Poaceae.) 30672. Plants of an oil-grass from Monghyr, Bengal, India. Presented by Mr. Lalit Mohan Sinha. "This is called Agya Ghas or fire-grass in Hindustani. It needs an alluvial soil to grow luxuriantly. The roots should be taken out every year after the rains and transplanted in a well cultivated soft soil. It is not very much cultivated now and is being neglected." (Sinha.) Imported for the work of the Office of Drug Plant Investigations in cultivating and testing all procurable species of oil-grasses. For distribution later.

ANONA SP. (Anonaceae.) 30486. Seeds of anona from Pará, Brazil. Presented by Mr. Walter Fischer, Acting Director, Campo de Cultura Experimental Paraense. "About three years ago Dr. J. Huber brought the original seeds from the river Purús; a year ago I planted several of the young trees on the station grounds and the seeds are from fruit from these trees. The fruit is almost spherical and only slightly heart-shaped; it is smooth and of a greenish orange color, weight about six ounces, meat of a beautiful orange and in fair quantity; taste like that of all the anonas, difficult to describe, but with a suggestion of resin and not unlike some apples I have eaten; probably capable of improvement and fruits may become larger on older trees. The tree in general aspect as well as in its bark and foliage strongly resembles the persimmon." (Fischer.) For distribution later.

APOCYNUM HENDERSONI. (Apocynaceae.) 30501-502. Seeds from Central Asia. Presented by Dr. Isaac Bayley Balfour, Director, Royal Botanic Garden, Edinburgh. 30501. Brown fiber. 30502. White fiber. "Yields a fiber from which rope is largely made." (Balfour.) One or two of the Central Asian species of this genus give fiber especially suited for use in

paper making, and this may also prove of value for this purpose. For distribution later.

CASTILLA PANAMENSIS. (Moraceae.) 30514. Seeds from Panama. Collected by Mr. H. Pittier of this Bureau. One of the six rubber-producing trees of this genus native to Panama, where it was collected by the Smithsonian Institution Biological Survey of the Canal Zone. For distribution later.

CITRUS LIMETTA. (Rutaceae.) 30620. Seeds of the sweet lemon from Palestine. Presented by Mr. A. Aaronsohn, Director, Jewish Agricultural Experiment Station, Haifa. "This is the stock most used in our orangeries." (Aaronsohn.) "The Jaffa orange, which is the great commercial orange of Palestine, 800,000 cases being exported annually, is generally grafted on this special sweet lime which Mr. Aaronschn writes us is not used either in North Africa or the United States. As a stock this sweet lime requires less water and produces trees yielding earlier fruit than does the bitter orange." (Fairchild.) For distribution later.

CITRUS SP. (Rutaceae.) 30605. Seeds of orange from Bahia, Brazil. Presented by Mr. Southard P. Warner, American Consul. "Laranja da Terra. This variety of citrus is used extensively at Bahia, the home of the Bahia navel oranges, as a stock on which to graft this remarkable seedless orange which has been so phenomenally successful in America. It is claimed that the Bahia navel when grafted on this stock thrives better and bears better than when worked on the other common citrus stock known as the 'Laranga tanga!'" (Fairchild.) For distribution later.

COLOCASIA. (Araceae.) 30271-272. Tubers of dasheens from Port of Spain, Trinidad. Procured from Mr. H. Caracciolo, St. Joseph Nurseries. 30271. "Some of the corms or rootstocks received were much elongated and very large, single specimens weighing up to five and a quarter pounds. These large corms had evidently grown continuously for about two years. Both corms and tubers are of good quality, and when baked are white and mealy. They are slightly acrid when raw. The corm is slightly different from the tubers in quality, although it is a trifle drier." (R. A. Young.) 30272. "Chinese eddo. This is eaten also, but not in large quantities." (Caracciolo.) "The corms and tubers are non-acrid and are of fair quality. When baked the flesh is mealy and white, except that in the corms it is sometimes slightly violet colored." (R. A. Young.) For distribution later.

DIOSCOREA SPP. (Dioscoreaceae.) 30268-269, 30274. Tubers of yams and yampies from Port of Spain, Trinidad. Procured from Mr. H. Caracciolo, St. Joseph Nurseries. 30268. "Cush-cush. This is the finest root we have and cooks very mealy; it is delicious." (Caracciolo.) "The flesh is very white and of high quality, similar to that of the yampies of the Canal Zone and Jamaica (Plant Introduction Nos. 29540 and 30091). The external appearance of the tubers is not quite so good as that of the variety from the Canal Zone, but is better than that of the few specimens of the Jamaica variety which I have seen. The skin, under the surface, is pink or purplish. The size and form of the tubers received varied considerably. The largest weighed over eight ounces." (R. A. Young.) 30269. "A yam of good quality. The flesh is perfectly white and is mealy when cooked." (R. A. Young.) "A purple-fleshed variety found among the white-fleshed tubers (No. 30268) received from the same source. The external appearance of the varieties was identical." (R. A. Young.) All for distribution later.

DIOSPYROS SPP. (Diospyraceae.) 30518-521. Seeds of Diospyros from Buitenzorg, Java. Presented by the Director of Agriculture. Four species are represented in this collection which is introduced for the work of testing all the procurable species of this genus as stocks for the better varieties. For distribution later.

GLYCINE HISPIDA. (Fabaceae.) 30593-601. Seeds of soybean from Manchuria. Procured through Mr. Edward C. Parker, Agricultural Experiment Station, Mukden. Nine varieties of the soybean, Nos. 30593 and 30600 being especially prized for their thin skins, high weight per bushel, and high oil content; all require 130 to 140 days to mature. For distribution later.

GOSSYPIUM SP. (Malvaceae.) 30711. Seed of cotton from Marash, Turkey in Asia. Presented by Mr. Paul N. Nersessian. "This is what we call native of Marash; it grows in a conical shape from one to four feet high, depending on the fertility of the land; usually yields well, that is, produces more bolls to a given area than other varieties, but usually the amount of the lint from a given weight of bolls is less than the other varieties (Plant Introductions, Nos. 29028 and 29029)." (Nersessian.) For distribution later.

MAGNOLIA CAMPBELLII. (Magnoliaceae.) 30509. Plants from Sibpur, Calcutta, India. Purchased from Major A. T. Gage, Superintendent, Royal Botanic Garden. "A grand flowering deciduous tree of the Sikkim Himalaya at 8000 to 9000 feet

altitude, has very large flowers, deep rose on the outer side, pale rose within. The seed is very short lived." (Woodrow - Gardening in the Tropics, p. 134.) For distribution later.

PINUS PARVIFLORA. (Pinaceae.) 30688. Seeds of a pine from China. Collected by Mr. George Forrest, presented by Mr. A. K. Bulley, Liverpool, England. "Tree of 70 to 200 feet. Cones nine to twelve inches. Fruits edible, sold in all markets. Chinese name Song-si. From Lichiang Range, latitude 27° 20', altitude 9000 to 10000 feet." (Forrest.) "These seeds agree very closely with seeds from the tree in the Department Grounds, but might belong to some Chinese species not yet represented in the collection. They belong to the section of *Pinus* having edible seeds." (H. C. Skeels.) For distribution later.

PISTACIA ATLANTICA. (Anacardiaceae.) 30611. Seeds of a pistache from Maison-Carrée, Algeria. Presented by Dr. L. Trabut, Algiers. "A large tree, reaching 40 to 50 feet in height and four and one half feet in diameter. It is the only tree of any size growing in the northern Sahara, where it occupies the 'dayas' or depressions in the plateaus. Of much promise as a drought and alkali resistant stock for the pistache." (W. T. Swingle.) For distribution later.

PISTACIA CHINENSIS. (Anacardiaceae.) 30687. Seeds of the Chinese pistache from China. Collected by Mr. George Forrest, presented by Mr. A. K. Bulley, Liverpool, England. "A tree of 40 to 80 feet. One of the varnish trees of Yunnan, Langkong Valley, 8000 feet." (Forrest.) See Plant Immigrant Bulletin No. 58 for description and photograph. For distribution later.

RHEEDIA EDULIS. (Clusiaceae.) 30492. Seeds of "sastra" from Panama. Collected by Mr. H. Pittier of this Bureau. "A shrub-like tree producing an edible fruit, about one to one and one half inches in diameter, which the natives describe as a round berry. It has reddish, smooth skin and a pleasantly acid taste. It is not cultivated, but seems to be well known to the natives. I am informed that the fruit is produced in the dry season, January and February." (H. F. Schultz.) For distribution later.

RHUS SUCCEDANEA. (Anacardiaceae.) 30686. Seed from China. Collected by Mr. George Forrest, presented by Mr. A. K. Bulley, Liverpool, England. "The lacquer tree of Western Yunnan, Lichiang Range." (Forrest.) For distribution later.

RUEUS SPP. (Rosaceae.) 30154-187. Cuttings of thirty-four species of Rubus from Vienna, Austria. Presented by Prof. Dr. R. von Wettstein, Director, Botanical Gardens. This series includes many of the rarer species of Europe and is introduced for varietal tests and especially for breeding work. For distribution later.

SACCHARUM OFFICINARUM. (Poaceae.) 30464-66. Plants of three selected varieties of sugar cane from Tainan, Formosa. Presented by Mr. Takiya Kawakami, Bureau of Productive Industry, Government of Formosa. 30464. Chiku-cha. 30465. An-cha. 30466. Ra-cha. All for distribution later.

SAPIUM VERUM. (Euphorbiaceae.) 30512. Seeds of Caicho blanco(white rubber)from the plantation "La Tigra," cuesta de Tocota, on the road from Cali to Buenaventura, Colombia. Procured by Mr. Henry J. Eder, former American consular agent at Cali, Colombia, forwarded through Mr. Charles H. Small, American consulate-general, Bogotá. "A rubber tree from the cool mountain valleys of Colombia suitable for the upper forest zones of the Philippines, Hawaii and Porto Rico. Trees eight to ten years old are in Colombia expected to yield annually from one to three kilograms of high grade rubber, second only to the best Para." (Adapted from Pittier.) For full description see Plant Introduction No. 24460, Inventory No. 18. For distribution later.

SPONDIAS DULCIS. (Anacardiaceae.) 30495. Seeds of the "we" fruit from Brisbane, Queensland. Presented by Mr. J. F. Bailey, Director, Department of Agriculture. "The tree is of rapid growth, highly ornamental, and attains a height of 50 feet in its native habitat. The golden-yellow fruits, about two to three inches in diameter, are produced in loose clusters. The brownish-yellow flesh partakes of the flavor of a pineapple and most people become very fond of the fruit when once accustomed to it. It is a trifle less hardy than the mango, to which plant it is related." (P. J. Wester.) For distribution later.

SPONDIAS LUTEA. (Anacardiaceae.) 30480. Seeds from Rio de Janeiro, Brazil. Presented by Mr. Antonio Augusto Pereira da Fonseca. "Caja mirim. Fruit good to eat." (Fonseca.) For distribution later.

SPONDIAS MANGIFERA. (Anacardiaceae.) 30491. Seeds from Sibpur, Calcutta, India. Presented by Major A. T. Gage, Superintendent, Royal Botanic Gardens. 30627. Seeds from Peradeniya, Ceylon. Presented by Mr. H. F. Macmillan, curator, Royal Botanic Gardens. This, like the two preceding

species, was introduced for testing its possible value as a stock for the mango. For distribution later.

VITIS VINIFERA. (Vitaceae.) 30467-468. Cuttings of grapes from Tiflis, Transcaucasia, Russia. Presented by Mr. S. Rolloff, Director, Tiflis Botanical Garden. 30467. Tavris. 30468. Ksil-isjum. "The fruits of these table sorts bear transportation very well." (Rolloff.) For distribution later.

XANTHOSOMA SP. (Araceae.) 30270. Tubers of yautia from Port of Spain, Trinidad. Procured from Mr. H. Caracciolo, St. Joseph Nurseries. Called "tannia" by Mr. Caracciolo. "The tubers are large, sometimes weighing one pound, usually club-shaped, have purplish red sprouts and are of good quality. The flesh when baked is much like that of a very white and mealy potato." (R. A. Young.) For distribution later.

ZIZIPHUS SP. (Rhamnaceae.) 30488. Cuttings of Chinese date from Chingchowfu, China. Presented by Rev. W. M. Hayes, Gotch-Robinson Union Theological College. "Cuttings of the largest variety of Chinese dates that I could hear of. The Chinese claim that they are not easy to graft successfully, so they will have to be given the best possible chance." (Hayes.) For distribution later.

ZIZIPHUS SP. (Rhamnaceae.) 30621. Seeds from Palestine. Presented by Mr. A. Aaronsohn, Director, Jewish Agricultural Experiment Station, Haifa. "Anaab, in Arabic. These seeds came from trees growing in the gardens in the vicinity of Naplus(Sichem)on dry, rocky and calcareous hills." (Aaronsohn.) For distribution later.

UNIDENTIFIED. (Zinziberaceae.) 30483. Roots of white ginger from Wei Hsien, China. Presented by Mr. A. H. Mateer. "This is planted in ground which has been spaded to the depth of nearly a foot, but is firm and solid underneath. This is to keep it from sending out rootlets deep down, and to lead the strength of the plant to producing tubers, like the effect of a pot-bound plant, of making it do something beside make rootlets. In our region (latitude of Kentucky) it is planted in trenches, dug as described, in April, in black and sandy soil (that is what the man said, though it seems to me like a contradiction), and the ground is not enriched. It is dug in autumn. The price now (March 4) is about five cents a pound, but two months ago it was less than three cents, and in a month or two it will be twice as much." (Mateer.) For distribution later.

UNIDENTIFIED. 30496. Plants from Chile. Received through Mr. José D. Husbands, Limávida, Chile. "Opuntia maíhuén. 'Herba del Guanaco'. A valuable plant for industry and ornament. Grows in dry, worthless, sandy waste where nothing else will grow. The skinned plant and fruit are eaten as a refreshment. The plant contains an extra large quantity of gum which I believe to be of industrial use and value. It completely covers the loose sand for about a meter in diameter. From the drifting sands near the volcano, 'Antuco'." (Husbands.) For distribution later.

UNIDENTIFIED. 30499. Seeds of arrayan from Mazatlan, Mexico. Collected by Mr. J. M. Goulding. Presented by Mr. F. W. Popenoe, Altadena, California. "This tree grows to be 20 to 35 feet high, the trunk sometimes 15 inches in diameter, with smooth, gray bark, and erect branches. It seems to be cultivated somewhat extensively in Mexico. Fruit is greenish yellow, with a large irregular disk at the top, and a smooth nutlet in the center; very juicy and said to have a rich, spicy, subacid flavor. One of the popular soft drinks of the country, said to be very refreshing, is made, from it." (Rose - Notes on the Useful Plants of Mexico, under *Myrtus arrayan*.) For distribution later.

UNIDENTIFIED. 30511. Bulbs from Yachowfu, Szechuan, China. Presented by Mr. C. A. Salquist, at the request of Mr. H. J. Openshaw. "Bulbs of a yellow lily. I have not seen this particular kind of lily in America, but it may be quite common." (Salquist.) For distribution later.

#### NOTES FROM FOREIGN CORRESPONDENTS.

BULGARIA. Sophia. Mr. Alaricus Delmard, late of Funchal, Madeira, writes April 5 that he has been appointed by King Ferdinand Director of the Gardens for the Kingdom of Bulgaria, and has assumed his duties.

CANARY ISLANDS. Puerto Orotava. Dr. George V. Perez writes April 14 that he is growing two species of *Echium*, *E. pininana*, and *E. auberiana*, seeds of both of which he will send us. The former he thinks will make a better fodder plant than the *E. simplex*, which sometimes grows to a height of twelve feet, while *E. pininana* grows still higher. *E. auberiana* is almost an Alpine plant growing at an elevation of 7000 feet. All three species are lovely garden plants.

CHINESE TURKESTAN. Kuldja. A postcard from Mr. Frank N. Meyer, Agricultural Explorer, dated March 23 informs us that he has safely reached Kuldja after a difficult crossing of

the Mussart Pass, which is very bad at this time of year. Mails from this point are irregular, however, and nothing further has been heard. See reproduction of postcard photograph of Kuldja.

COSTA RICA. San José. Dr. Wercklé writes April 18, "Of Lucuma (*Calocarpum*) *mammosa* nobody knows anything here; it is an extremely strange thing; it is considered the best fruit of the Continent (of South America) and yet it is not known in Costa Rica; nor could I find anybody in Colombia who knew where it can be seen; no Nicaraguense could tell me about it either. It seems that it must be extremely rare except in Peru, where it seems to be native, and in Mexico. Oken says the tree gets very old before it bears, but then it bears for 200 years continuosly, having all the time flowers and fruits in all stages. It is evergreen, if I am not very much mistaken, which is not the case with *Achras sapota* L. Pittier seems to confound the two, but the "lucuma" of Peru is considered an incomparably finer fruit than the sapote. I think there would be less difficulty in getting this tree than the 'pacouri-uva', *Platonia insignis*, I think this latter grows in the Rio Negro region. The *Persea* Pittieri seeds I had to plant; they shriveled completely in a very few days; they are of a quite different consistency to those of the 'palta' (*P. Americana*) a little soft. Will send plants with the seeds on them yet (this way, strange enough, they keep well.) If nothing happens, I will go next Sunday to the Pacific coast (mouth of Rio Grande and Coyolar) to see if I can still find seeds of the Castilla. I remember when the first fruits were ripe the upper part of the twigs had yet flowers and buds."

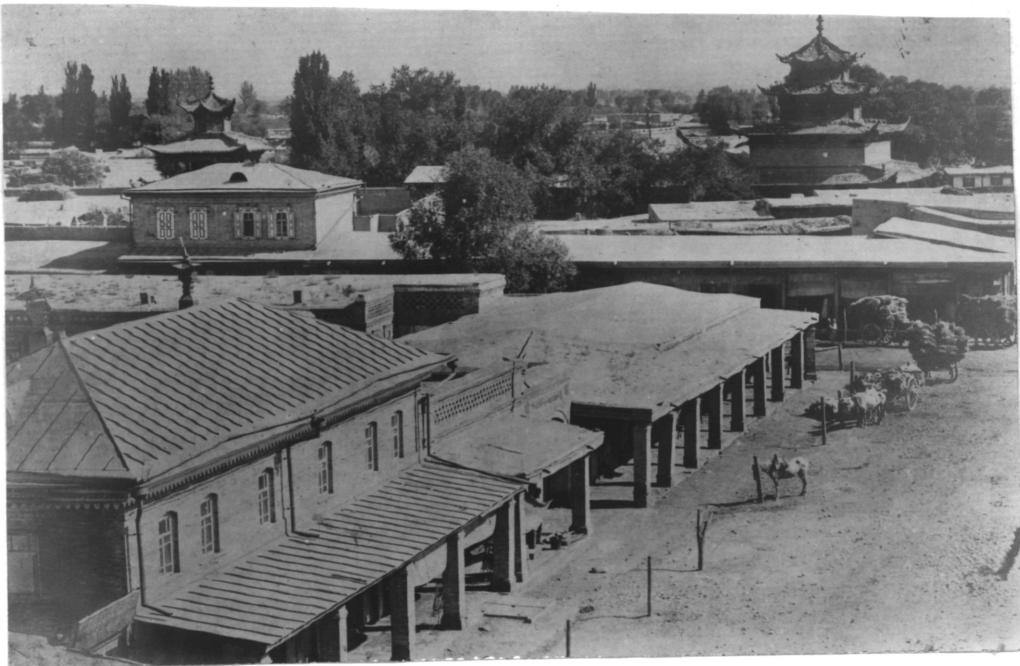
MEXICO. Chihuahua. Mr. Marion Letcher, American consul, writes April 17, "In reference to the harvesting of sesame, the people in Guerrero always cut by hand before the pods ripen, cutting the entire crop at the same time. There appear on the pods just prior to the maturity of the crop certain small black spots which serve as an indication that the crop is ready for harvesting. There will always, of course, be inequalities in the degree of maturity as regards the different individual stalks, but this fact does not affect the yield to an appreciable degree. After cutting, the stalks are stacked with the heads up, being thus left until they are opened by the sun. In my opinion the use of machinery would be perfectly feasible in the harvesting of the crop. In the matter of threshing seed from the stalks, it appears to me that any kind of machinery would be unnecessary, since the mere inversion of the dried plants causes the seed to fall out, and the handling necessary to the introduction of the

stalks into the separator would probably effect the separation before the machine was reached. In our climate, that is the climate of the lower Southern States, it would probably be best to stack the crop indoors in long sheds until the pods open, since our variable rains might do some damage. The methods of cultivation followed are very similar to those followed in the case of cotton." See photograph.

PORtUGUESE EAST AFRICA. Inhambane. Rev. Pliny W. Keys writes April 10 that he will undertake to get for us seed of *Strychnos Gerrardii*, one of the edible fruited species, and of *Garcinia Livingstonei*, which may prove of value as a possible stock for the mangosteen.

#### SPECIAL NOTICE.

Dr. Charles Sprague Sargent, Director of the Arnold Arboretum, Jamaica Plain, Mass., proposes "to issue from time to time from the Arboretum bulletins of popular information in which attention will be called to the flowering of important plants and other matters connected with them. During the spring and autumn these bulletins will probably be issued every Saturday and from time to time during the remainder of the year when the necessity for them exists; and in them notice will be given of what will be best worth seeing during the following week. Copies of the bulletin will be mailed without charge to anyone interested in trees and shrubs and their cultivation who desires to receive them." No. 1 was issued May 2, 1911, and this and the two other numbers seen call attention to a large number of very interesting hardy spring flowering shrubs of the greatest interest and value to breeders and amateurs.



### KULDJA, CHINESE TURKESTAN.

This town, where Mr. Frank N. Meyer, Agricultural Explorer, arrived March 23, 1911, is the principal town of the Ili Province, the scene of the recent Russian-Chinese controversy. It lies at almost exactly  $44^{\circ}$  N. latitude, and has a strictly continental climate, having long cold winters in which the mercury goes down to  $20^{\circ}$  below zero F., and short, hot summers.

Mr. Meyer writes, "A dirty unkempt town this Kulscha is, and not populated by the best sort of folks. A real border town, nominally Chinese, but really Russian, inhabited by Sarts, Tartars, Chinese, Russians, Kirghiz, Kalmuks, Dsungans, Manchus and some mixtures between all these races. They told me some ten or eleven different languages were daily spoken here."



#### SESAMUM ORIENTALE. SESAME.

Photograph of bundles of sesame stacked with heads up to ripen in the sun. "Sesame, also known as bene, is the source of an oil which is much in use in the United States for a variety of purposes. The oil is mild, bland and edible. It is now grown largely in China and other parts of the Orient, as well as in Mexico. The seeds are used in making a very attractive confection, being used like peanut in making a 'brittle'. The present demand for sesame in the United States is fairly good and since the plant is very well adapted to semi-arid conditions, there seems to be opportunity of developing sesame culture. The price of the seed, however, is rather low." (R. H. True.) Photograph by Mr. Marion Letcher, American consul, Chihuahua, Mexico.